GrummanWorld

Volume 5, Number 6 March 28, 1986

The Proper Fit: New Aerialcat With Older Firehouses

Emergency Products unveils new 92-foot Aerialcat at firefighter conference in Cincinnati

Representatives of Grumman Emergency Products have a brand-new product to take on sales calls: the 92-foot Midmount Aerialcat.

Its coat of red paint still fresh, the 92-foot Aerialcat was introduced by Grumman at the 58th Annual Fire Department Instructors Conference. The conference was held in Cincinnati, Ohio, March 15-19, and was attended by about 5,000 firefighters, emergency medical technicians and other lifesaving personnel.

The new truck is an important addition to Grumman's three-year-old line of Aerialcats – fire trucks with an aerial ladder and platform. The new Aerialcat's height is 9 feet 10 inches with its ladder stowed. That enables it to be sold to cities and towns where older fire station doors and bridge clearances are likely to be less than 10 feet high.

"From our experience, we've found there are lots of fire stations with 10-foot doors," says Vince Hodge, manager of Aerial Marketing for the Roanoke, Virginia-based Emergency Products, which is part of the Allied Division. "Even among the stations with 12-foot doors, present equipment clears by inches, making firefighters nervous. This new Aerialcat solves the problem."

The Cat's Meow. *Emergency Products' new 92-foot Aerialcat was introduced at the 58th Annual Fire Department Instructors Conference, in Cincinnati, Ohio, March 15-19.*

The truck's predecessors, the 95- and 102-foot Aerialcats, have become the best-selling aerial platform trucks in the industry. Grumman sold 26 Aerialcats in 1985, up from 12 in 1984.

"And those 26 Aerialcats were sold to 26 different cities," says Bill Bruns, Emergency Products' vice president of Marketing. "We now have a 10- to 12-month backlog in orders. We are beating all our competitors."

According to Hodge, only one market competitor offers a ladder tower that stows less than 10 feet, "and that product was designed in the 1960s. It hasn't changed much since then. Our new Aerialcat offers up-to-date technologies."

The new Aerialcat's water pump is mounted at the rear of the truck, so the water and hose are away from the mid-mounted ladder turntable. "That's important in a fire," says Hodge. "If there are puddles on the ground by the ladder, there's the risk of someone – either a firefighter or a fire victim – falling and getting injured."

The water pump is also the first hydrostatic pump in the industry. The pump is powered by a hydraulic pump, which is in turn powered by the engine's driveshaft. Other fire pumps run off an auxiliary transmission, which disengages the main engine transmission when in use. The new water pump design eliminates the need for that second transmission.

"It's simply a more efficient way of pumping," says Hodge. "It's not a new technology in itself. But this is the first time it's been used in a fire-fighting system."

The main control box for the truck's outriggers – which support the truck when the aerial is raised – is in the jump seat area. However, there are also remote control boxes near the jump seat and at the back end, making for easier operation.

The 92- and 102-foot Aerialcats were popular stops on the exhibit floor, with visitors of all ages climbing up their towers.

Hodge and Bruns are optimistic about the new Aerialcat's sales potential. "We won't have competition for a long time," says Hodge. "We don't want to build 'me-too' products. It's a competitive industry, so we have to find a niche and build build something to meet that need."

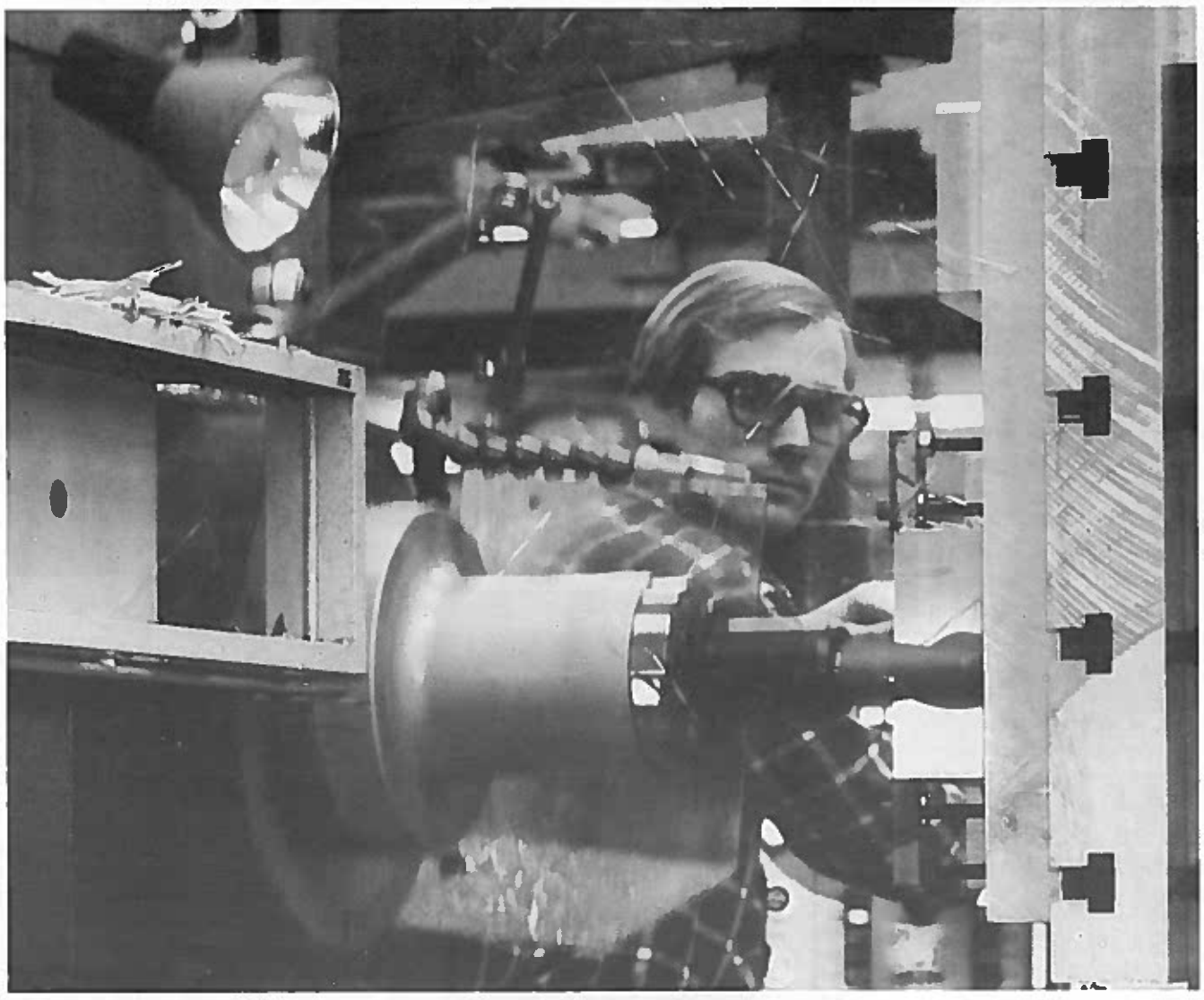
Bruns attributes Grumman's success in the Aerial market to a novel way of marketing. Like its competitors, Grumman Emergency Products has a network of dealers in every state who scout for prospective customers. But along with the dealer, it sends a team of specialists from Roanoke, as well as an Aerialcat itself, on a sales call.

"Aerials are more complex to sell than regular pumpers," says Bruns. "They're much more technical. You need a person who's received extensive training in the factory."

Hodge, one of the traveling salespeople, says customer inquiries can be addressed more readily – right down to financing the truck through Grumman Credit Corporation. "And bringing the Aerialcat to the fire stations is what's made us number-one in the aerial market," he says. "People like to buy what they can see, touch, feel."

The Midmount Aerialcat on display in Cincinnati was a prototype. It has been in development since October of 1984. It will be manufactured at Emergency Products' Aerialcat plant in Vinton, Virginia, four miles from Roanoke. About 100 Grummanites work at the facility.

Depending on options, the Aerialcats are all priced at $400,000 to $450,000. ■



Prowler Through The Mill. *Tens of thousands of parts make up an EA-6B – not including the electronic countermeasures black boxes. To make one fitting for the Prowler, Tom Tiarks uses a four-axis bore in the Building 3 Machine Shop. (Photo by Jim Wagner)*

More Powerful Mohawk Soars On Maiden Flight

On March 3, a souped-up OV-1D Mohawk made its maiden flight over Lake Okeechobee in Florida. Grumman test pilot Chris Wold and Army project pilot CWO Joe Miess were at the controls.

The Grumman Mohawk was re-engined with two modified Avco Lycoming powerplants, as part of an Army project to develop and test more powerful engines for the OV-1D and RV-1D.

After two weeks of checkout flights at Stuart Operations, the company will turn the re-engined Mohawk over to the Army for a two-month flight test program at Edwards Air Force Base, California.

Since the early Sixties, Grumman Mohawks have served as the Army's battlefield surveillance and reconnaissance planes. The U.S. Army currently has a fleet of 127 Mohawks. The RV-1D has an airframe identical to the OV-1D, but it features different electronics. The RV-1D's specialty is gathering electronic intelligence.

Over the years, the Mohawk has been updated continually. In the process, its weight has increased to the point where its engines are reaching their load-carrying limits.

The new 1,800 horsepower engines give the plane a boost over the older engines with their 1,400 horsepower each. "We did very few modifications to install the new engine," says Tom Doyle, OV-1 program vice president. However, Grumman did install a hydraulic augmentation system that provides the pilot with the necessary rudder pedal deflection needed for single engine control.

At Edwards Air Force Base, the Army will conduct 25 to 40 hours of flight testing. Depending on the outcome of the test program, these new engines could become part of a Mohawk block improvement program, which could mean six or more years of Mohawk work to Stuart. ■

Gearing Up. *Mark Gangi (L) and Andrew Rogers inspect the nose gear of a Mohawk at Stuart Operations in Florida. A new more powerful engine for the OV-1 is undergoing flight tests at Edwards Air Force Base in California.*

No Shortage Of Information

Finding a short in your car's wiring would be a snap if you had one of these handy-dandy DIT-MCO circuit analyzers. But if you have to check the 50,000 wires in an E-2C Hawkeye, it's an absolute must.

In Building 4 in Bethpage, test crew members John Zuk (seated at DIT-MCO) and Bill Huber run a test with the DIT-MCO to verify that the plane's wiring is properly connected. This is done before the airborne early warning aircraft's radar systems are installed. The analyzer will also make sure engineering changes, such as those made for foreign military sales, have been properly installed.

Before DIT-MCO analyzers came along an airplane's wiring was checked by hand. Grumman got its first DIT-MCO in 1957. DIT-MCO International Co. started in business building drive-in theater equipment. The owner of the Drive-In Theater Manufacturing Company financed an idea to build circuit analyzers. The analyzer business became bigger than the drive-in equipment business. Now DIT-MCO is one of the largest producers of circuit analyzers in the country. Grumman has 20 of its testers. (Photo by Bob Settles)

Time To Sign Up For Annual Meeting

The annual meeting of Grumman shareholders is scheduled for 2 p.m. on Thursday, April 17, in Building 4. On March 19, Bankers Trust Company, agent for the trustees for the Grumman Employee Investment Plan, began mailing Plan members proxy statements and confidential cards for voting at the annual meeting, says Bob Bradshaw, Grumman Corporation vice president and secretary.

Employees are asked to return the completed cards by April 9 to Bankers Trust Company in the self-addressed, postage-paid envelopes that accompany the proxy statements.

Because Grumman shares obtained through the Investment Plan are held in trust for each individual member, being a Plan member does not automatically entitle participants to attend the annual meeting, says Bradshaw. Only those persons owning shares of record – that is, shares purchased outside the Investment Plan prior to the record date of February 28 are eligible to attend.

Grummanites who own company shares as of the record date (February 28, 1986) and who wish to attend the meeting should present their proxy card at any Employee Services office before April 9 in order to preregister. *Your proxy card should then be mailed immediately in the return envelope provided.*

Data Systems Unit Wins Computer Maintenance Jobs

Grumman Systems Support Corporation, a computer hardware service unit of the Data Systems Division, recently won several contracts.

Under a six year contract, the operating unit is maintaining Data General computer systems at NASA's Goddard Space Flight Center in Maryland. Maintenance services is managed by the unit's Baltimore office under the direction of Ken Butler. The $125,000 contract went into effect March 1.

Ticketron awarded Grumman Systems Support a $235,000 contract to service its entertainment ticket vendor terminals. The contract includes upgrading as well as repairing the computer hardware.

Grumman was also named the exclusive service agent for Tolerant Systems, Inc., a manufacturer of sophisticated fault tolerant computer systems. Starting April 1, the Data Systems unit will provide service for the Tolerant systems on a national basis. The contract will generate $100,000 in the first year.

Earlier this year, Grumman Systems Support broke into the market for servicing IBM System 4300 mainframes. It won a $43,000 contract to maintain Fidiciary Trust Company's IBM systems in New York City.

Personals

My family and I extend our sincerest thanks to all of my friends and co-workers at Grumman and to ESO for their expressions of kindness and sympathy following the passing of my father James. **Paul Scollan**

We'd like to thank all our friends at Grumman and ESO for their thoughtfulness and sympathy during the recent loss of our father. **Louise Collura and Joe Marchesiello**

I wish to express thanks to my co-workers, friends and ESO for their expressions of sympathy during the recent loss of my mother. **Eva Rees**

Amendola Tackles Messy Problem With Clean Solution

He wins Project Sterling Man Of The Year Award; other innovative suggesters also honored

"This part of the job is the pits. It takes too much time. It's cumbersome. It's messy. It must cost the company a lot of money doing it this way. I know there's a better way. What if . . . ?"

In 1985, hundreds and hundreds of Grummanites filled in the "what ifs" and suggested better ways to do their jobs. They participated in the Project Sterling employee suggestion program.

On March 12, the creators of 1985's most innovative suggestions were honored at the 20th Annual Project Sterling Awards Dinner, held at the Milleridge Cottage in Jericho, Long Island.

Ray Amendola, a leadworker in the Drop Hammer Shop in Bldg. 2, was named Top Suggester of 1985. He recommended a new seal for the drop hammer dies. Instead of using an expensive toxic foam, Amendola suggested using a 3M tape with superior bonding characteristics. The die sealing operation is now clean, less expensive in materials, and easier to perform.

"Dies can often weigh one to 10 tons. They are very big solid blocks of metal, so I'm always trying to think of ways to make the job easier," said Amendola. "The less you have to move those dies around the easier your job is."

Each year, Grumman selects the 11 most outstanding suggestions for recognition at the Project Sterling awards dinner. Selections are based on the suggester's effort plus the latest assessment of the benefits generated by the idea.

Amendola had earned $1,025 earlier this year for his idea. For being named 1985's Top Suggester, he collected an engraved clock and another $1,500.

Man Of The Year. *At the 20th Annual Project Sterling Awards Dinner, Ray Amendola was named Top Suggester of 1985. A leadworker in the Drop Hammer Shop in Bldg. 2, Amendola recommended a new seal for the drop hammer dies. (Photo by Marie Trimborn)*

While Amendola has cashed in on 35 suggestions over the years, Charles Buxton submitted his first suggestion in 1985. It earned him $3,165 when it was implemented earlier this year. At the awards dinner, Buxton picked up another $1,000 and an engraved clock.

A financial specialist in Resources and Business Analysis, Services Division, Buxton noticed that a Defense Acquisition Regulation provision was not being universally applied at Grumman. This provision allows contractors to establish a progress payment rate based on a complex government computer model. If used, it could reduce the company's need for short-term borrowing – and the related interest costs.

Buxton suggested a small group be established within Business Operations to apply this computer model to applicable Grumman programs. The net result: a savings of $65,000 in the first year alone.

Buxton advises fellow Grummanites not to be discouraged. "The program is definitely worth your time and effort," says Buxton. "It may be a while before your idea is approved, but it's worth the wait."

Bob Schmidt submitted his first suggestion last year, too. As a group leader in Bldg. 2's Inventory Control, he recommended changes to a manufacturing computer system that tracks work orders. "Every time a scheduling change was made, all the work orders had to be retrieved from the shop floor and re-issued," says Schmidt, who now works in Production Control, Plant 4, Aircraft Systems. Other forms were also affected. Thanks to his suggestion, now all it takes is one transaction to update all the original work orders.

When his idea was implemented, Schmidt received $3,240. At the awards dinner, he collected another $750. Now a true believer in Project Sterling, he is working on another winner for 1986.

Eleven other Grummanites also received awards for their 1985 suggestions:

$500 - Primo Dellapino, engineering specialist, ILS Digital Engineering, Bldg. 106, Aircraft Systems Division. Winslow Peters, tool designer and Tom Zelezny, associate manufacturing engineer, both in Manufacturing Engineering, Bldg. 11, Aircraft Systems Division. Samuel Savino, technician, Hydraulic Production, Bldg. 6, Aircraft Systems Division. Linda Cook, scholarship student, Technical Operations-Radome Test, Bldg. 66, Aircraft Systems Division.

$250 - Frederick Kief, milling machine operator, and Edward Fontz, contour mill operator, both in Machine Shop, Bldg. 56, Aircraft Systems Division. Marshall Brown, keyworker, and Ralph Vincent, fabricator, both in Precut, Bldg. 66, Aircraft Systems Division. Peter Brown, subcontract administrator, Procurement-Great River, Bldg. 44, Electronics Systems Division. Henry Frost, lead technician, Aerotest Engineering, Bldg. 13, Aircraft Systems Division.

Grumman also recognized 40 people who contributed significantly to the company's cost-cutting program via Project Sterling suggestions. Those Grummanites received $250. ■

Project Sterling Expands In '86

In 1985, Grummanites in Aircraft Systems, Electronics Systems, Services, Space Systems, and Aerostructures, and St. Augustine participated in the Project Sterling suggestion program. They will be joined in 1986 by people in the Data Systems and Technical Services divisions.

In 1985, 1,047 employee suggestions were approved. Cash awards for these suggestions totalled $134,455; first year savings to the company resulted in more than $2 million.

If you have a suggestion, pick up the standard Project Sterling form at any Employee Service Flight Shop, from your Suggestion Coordinator, the Suggestion Form Box in your work area, or the Motivational Programs office in GHQ. If you have any questions, call Motivational Programs, Ext. (111) 54332.

Keep The Cup. *For the third year in a row, Milledgeville Operations won the Project Sterling Cup. Picking up the Cup were: (L to R) James Dickson, Vice President Tom Lahey, Marshall Brown and Ralph Vincent.*

Milledgeville Wins Participation Cup – Again

Grummanites at Milledgeville Operations won the Project Sterling Participation Cup for an unprecedented three years in a row. By making company history, Grummanites in this Georgia facility get to keep the sterling trophy.

In 1985, Milledgeville submitted 519 suggestions. The participation rate was an incredible 76 percent – significantly higher than the company average rate of 10.5 percent.

Master Fellows

Applications for the 1986 Master's Fellowship competition will be accepted from qualified Grummanites in the Aerostructures, Aircraft Systems, Electronics Systems, Melbourne Systems and Space Systems divisions. This is an excellent opportunity to earn a master's degree while working. The application deadline is April 1. For application materials call (111) 56173 or 52682.

Obituaries

Anthony W. Forte, Prototype, Aircraft Systems, Bethpage, died March 2 at the age of 61. He had been with the company since 1974 and resided at 8 Garden Blvd, Hicksville.
Mannie Eng, Environmental Test, Aircraft Systems, Bethpage, died March 5 at the age of 29. He had been with the company since 1985 and resided at 64-15 Bell Blvd., Bayside.
Porfirio A. Viamonte Jr. of Systems Safety, Bethpage, Aircraft Systems, died March 1 at the age of 58. He had been with the company since 1969 and resided at 37 Fourth Ave., Farmingdale, N.Y.

Grumman Computer System Sets Stage For Sellout Shows At New York Convention Center

Final Rehearsal. *Above, Kevin Walsh (R) instructs Bernice Durrani (L) and Lily Khalil in operating the New York Convention Center's computer. At right, the new center sparkles at night.*

Side By Side. *Grummanites Mike Kanowitz (standing) and Meir Tor (R) coach center staffer Ernestine Spells on a software program.*

Go ahead, ask Lily Khalil: Who's reserved the Jacob Javits New York Convention Center for July 1-14, 1997?

She punches a few characters on the keyboard of her Wang computer terminal, straightens her glasses and scrutinizes the screen for a moment. "The American Federation of Information Processing Societies," she replies.

The dazzling new convention center, on the west side of Midtown Manhattan, opens for business this Tuesday. It's already about 95 percent booked through its first year. In her role as booking coordinator for the center, Khalil depends on computer software created by Grumman's Data Systems Division.

To paraphrase New York City's mayor, how's it doing?

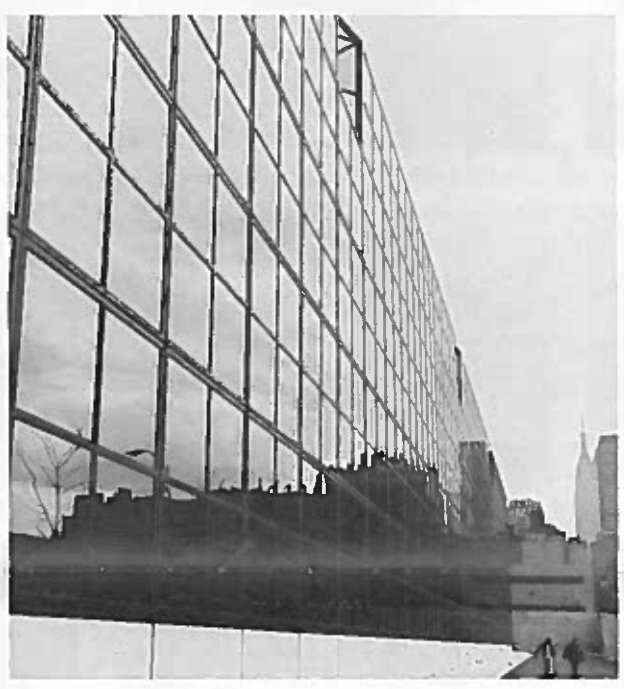
"It's a beautiful system," says Khalil. "It allows entries to be changed very easily. Events are in a constant state of revision, right up until the last minute. It definitely meets my requirements."

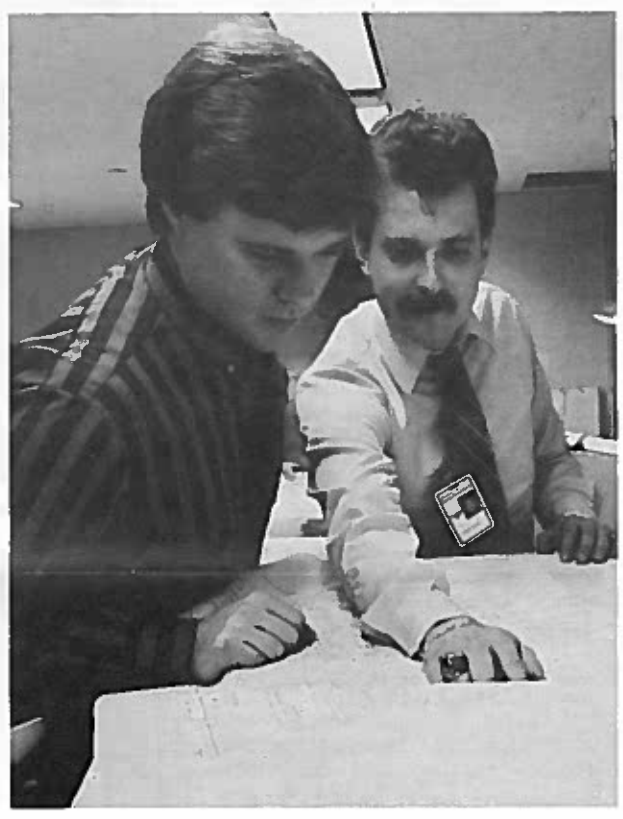
Construction crews, painters, and electricians are rushing around with scaffolds, dollies, and

> 'Events are in a constant state of revision, right up until the last minute.'

armloads of wires, getting the place ready for opening day. Several Grummanites have been working there for the past weeks, too. They aim to make the center's computer system as spectacular as its main lobby, the glass-roofed, 15-story Crystal Palace.

The Grummanites' work is the culmination of eight contracts Data Systems has had with the Center over the past few years. The main contract, worth $1.5 million, covered designing the system and a series of custom software packages. It included the function-booking package Khalil uses.





Standing Room Only. *(Top) Kanowitz reviews a last-minute detail of the convention center financial software with finance manager Tony Farina. (Above L) Mirrored windows of center reflect the New York City skyline. (Above R) Walsh reviews floor plans with John Leonard of the center.*

as well as applications packages for finance, order entry, and inventory control.

There are about two dozen computer users among the 40 employees of the state-owned corporation that manages the center. The terminals are hooked up to a Wang central processing unit for word processing. This unit is in turn connected to an IBM 4361 mainframe computer, which runs the Grumman software packages. Also linked to the Wang is a separate network of terminals used by Ogden Corporation – the private contractor that provides security, cleaning, moving crews, and other services.

'The show managers need a lot of time to sell booth space, so they get started very early.'

An event organizer can reserve all or part of the Center's 900,000 square feet of floor space, and it's Khalil's responsibility to keep track of each client's needs. In fact, the center can accommodate up to six trade or consumer shows simultaneously, with some 85,000 visitors per day.

The two shows booked for opening day are the Fur Fair, on the main floor, and the International Art Expo '86, on the lower level. There are confirmed bookings as far ahead as 1988; the aforementioned 1997 show is still tentative.

"People in this business work well in advance," says Khalil. "The show managers need a lot of time to sell booth space, so they get started very early."

Trade shows and expos aren't the only items on the agenda. The first event scheduled for the Crystal Palace is a fundraising dinner for New York City's homeless, on April 19. New York University Law School and Mt. Sinai Medical School have reserved space for their June commencement ceremonies, and several occupational guilds will have license examinations at the center. There will even be a huge bridge tournament this summer.

Data from the computer system ensures that simutaneous exhibitions will complement one another, rather than compete. "You don't want to book two leather shows at the same time," says Khalil.

The system also helps Khalil keep track of a show organizer's individual needs. For example, the commencements both require a large area to be walled off from view for graduates to don caps and gowns. And at the Fur Fair, wholesalers' meetings will be held in rooms that must be outfitted by Ogden Corporation with everything from microphones to garbage pails.

When an event is over, the computer helps in the preparation of economic impact reports for the state government in Albany. The report gauges an event's benefit to the New York City economy, based on attendance data and the number of hotel rooms used by attendees.

Grumman Data Systems is currently working on another contract to provide telephone accounting software for the center. This software, linked to the center's AT&T phone system, addresses a problem endemic to the trade-show business. A trade show exhibitor usually wants a phone at his booth. The AT&T system keeps track of calls and the Grumman software produces detailed reports one day after closing. It also prepares exhibitors' invoices.

The telephone software produces authorization codes for exhibitors. The computer prints up individual statements bearing these codes; they're sealed much like a Grumman paycheck. The exhibitor must use his code to make a long distance call, and the codes enable the computer system to keep records of his phone use.

Data Systems is also in the last stages of an 11-month contract to develop the center's telephone interface design. The interface connects the computer to the phone system, which will eventually handle 10,000 phones.

Another vital computer tool is the financial package. The system will print invoices, and generate reports on clients who are 30, 60 and 90 days late. The computer is also set up to maintain a computerized history of each customer.

Tony Farina, Financial manager, says the trio arrangement for running the center – the operating corporation, the state government, and the service contractor – is highly unusual. Out of about 300 center employees, the vast majority will be employed by Ogden Corporation. All state income and expenses records must be segregated from those of Ogden Corporation. Accomplishing that with the computer has been a massive undertaking that's just now being completed.

Under a separate Facility Management contract, the Grumman Data Systems people have been modifying computer programs and training the center's employees to operate the computer.

There are last minute details that arise, such as the design of invoice forms, which must be printed by the computer. The system will stay linked by phone to Woodbury for programming support, and five Grumman operators will report to the center every day. The support portion of the contract will wrap up in November.

Recalls Khalil, "I was very new to this when I started last May. The Grumman people introduced me to this job, through their training. They were perfect teachers. You couldn't ask for a better working relationship." ■

H. C. Ahders

R. L. Armbrust

B. R. Bensen

W. T. Brennan

R. A. Broome

E. G. Charland Jr.

R. P. Corney

D. F. Coyle

Service Milestones

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Edward Bohm, Mech. Struct. & Assy., Great River, Electronics
Thomas F. Tabosky, Pride Line, Bethpage, Aircraft

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Joseph F. Aquilino, Whse., Bethpage, Aircraft
Jack Buffa, Flt. Ops. Insp., Calverton, Aircraft
Calvin C. Conrad, Assembly Tool. & Hand. Equip, Calverton, Aircraft
Osgan Kassapian, Prod. Spares, Bethpage, Aircraft
Beryl A. White, Secty. Serv., Melville, Electronics

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Frank Barbato, Trans. Ops., Bethpage, Services
Frank Budzenski, Controls, Bethpage, Aircraft
Vito Buffa, Final Assembly Insp., Calverton, Aircraft
Lawrence M. Canonico, Adv. Aircraft, Bethpage, Aircraft
Joseph Famiglietti, Mat'l. Offsite Supt., Bethpage, Aircraft
John J. Flatley, Qual. Eng., Bethpage, Aircraft
Laurence Gagliano, Insp. Elect. Test Lab., Bethpage, Aircraft
Raymond W. Haas, Rec./Shipping, Calverton, Aircraft
William H. Horton, Details, Bethpage, Aircraft
John J. Hospodar, Sub-Assembly Maj., Bethpage, Aircraft
Charles L. Johnson, Maint., Bethpage, Services
Andrew F. Kaufmann, Proposal Mgmt., Bethpage, Services
Michael Kowalchik, Pwr. Plt. Des., Bethpage, Aircraft
Harold R. Mead, Fld. Mechanics, Bethpage, Aircraft
Edward B. Moebes, Assembly Methods, Bethpage, Aircraft
William H. Mueller, Tech. Dev. Mgmt., Bethpage, Aircraft
Leonard Murphy, Mfg. Plann., Great River, Electronics
Wentworth F. Myers, Veh. Struct. Analysis, Melville, Aircraft
Dominick L. Quaresimo, Anodize, Bethpage, Aircraft
Norwin H. Rehm, Prod. Plt. Mgmt., Bethpage, Aircraft
George A. Smith, Supt. Sys., Virginia Bch., Aircraft
Lawrence I. Smith, Final Assembly Struct., Bethpage, Aircraft
Carl E. Swanson, Personnel Mgmt., Melville, Services
David L. Sweezy, Maint., Bethpage, Services
Joseph Visconti, Veh. Struct. Analysis, Bethpage, Aircraft
Henry A. Wahl, Mat'l. Ops., Calverton, Aircraft

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Arthur R. Andersen, CTR-Sect. Maj. & Sub., Bethpage, Aircraft
Daniel J. Aquilino, Mat'l. Coordination, Bethpage, Aircraft
Robert W. Barker, Comp. Ops. Bethpage, Data
James H. Becker, ILS Train. Sys. Eng., Bohemia, Aircraft
Robert E. Bischoff, Prog. Mgmt. E-2, Bethpage, Aircraft
Louis J. Bocchino, Details, Bethpage, Aircraft
Ronald W. Boyce, Stockrooms, Bethpage, Aircraft
Eugene J. Burbol, A6/EA-6B DITMCO - Fuel, Calverton, Aircraft
Robert A. Carlstrom, Tact. Jam. Sys. Des. Analysis, Melville, Aircraft
Robert F. D'Errico, Proc., Mt. Mugu, Aircraft
Harry J. Deneau Jr., Prod. Mgmt., Stuart, Aircraft
Frederick J. Dolan, Market Plann. & Res., Bethpage, Services
John. O. Helgesen, Conf. Data. Mgmt., Bethpage, Aircraft

R. J. Davis

G. Duce

J. P. Ernst

P. J. Francis Jr.

C. P. Iwanski

P. H. Kurz Jr.

H. J. Lenz

G. Lind

R. V. Maple

W. H. McCluskey

R. Mur

M. G. O'Connor

C. V. Rau

J. J. Reilly

D. J. Rogers

B. D. Ruth

W. G. Schultz

J. J. Smith

A. M. Squicciarino

F. H. Steffens

B. Swerdling

E. Ulmer

C. A. Unger

H. Wexler

Armand A. Jalbert, Sub Assembly - Bench Fab., Bethpage, Aircraft
Julius Keller, ILS Supply Ops. Proj. Mgmt., Bethpage, Aircraft
Louis A. Lionetti, ILS Supply Ops. Proj. Mgmt., Melville, Aircraft
George A. Mannarino, Qual. Mgmt., Bethpage, Aircraft
James McDonagh, Est. Mgmt., Bethpage, Services
Robert E. Melnik, Fld. Mechanics, Bethpage, Aircraft
Ira D. Morgan, Sal. Ops. Mgmt., Great River, Electronics
John B. Nickerson, Tool Eng., Stuart, Aircraft
Robert C. Nolan, Prod. Plt. Mgmt., Bethpage, Aircraft
Richard H. Palmer, Veh. Lia., Bethpage, Aircraft
Vincent Palmeri, Electro-Mech. Lines, Melville, Aircraft
Salvatore Pantano, ILS Mech. Equip. Engrg., Melville, Aircraft
Frank T. Peterson Jr., Corp. Prod., Bethpage, Aircraft
Joseph J. Popolo, Relib. Maint. & Safety, Bethpage, Aircraft
Charles A. Prudhom, Proj. Mgmt., Bethpage, Aircraft
Shirley Reiss, Corp. Inv., Bethpage, Grumman Corp.
Henry Schillo, Mech. Oper. - Tech. Serv., Bethpage, Aircraft
Robert D. Sison, Spec. Prog., Melville, Aerostructures
Edward J. Stastny, Equip. Des. Eng., Bethpage, Services
Charles A. Steinbrenner, Relia. Prod. Supt., Calverton, Aircraft
Robert J. Valente, Mgmt., Glen Arm, Aircraft
Anthony Varvaro, Crew Syst./Equip. Integ., Bethpage, Aircraft
George D. Warnken, Flt. Saf. & Supt., Calverton, Aircraft
Arthur I. Williams, Mass Prop. Analysis & Cont., Bethpage, Aircraft
Alfred J. Zaleski, Ops. Analysis, Bethpage, Aircraft

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Howard C. Ahders, Software Sys. Mgmt, Bethpage, Aircraft
Ralph L. Armbrust, Shipping, Calverton, Aircraft
Bruce R. Bensen, Maint., Calverton, Services
William T. Brennan, Subsys., Bethpage, Aircraft
Ronald A. Broome, Maint., Bethpage, Services
Edmund G. Charland Jr., Corp. Inst. Sys., Calverton, Aircraft
Richard P. Corney, ILS Tech. Writing, Pt. Mugu, Aircraft
Daniel F. Coyle, Maint., Bethpage, Services
Robert J. Davis, ILS Tech. Serv., Bethpage, Aircraft
George Duce, Maint., Calverton, Services
Jerald P. Ernst, Meth. Eng., Great River, Electronics
Robert L. Finch, Struct. Subs., Calverton, Aircraft
Patrick J. Francis Jr., Start Plann., Great River, Electronics
Carle L. Giannelli, ILS Sys. Engr. Mgmt., Melville, Aircraft
Charles P. Iwanski, Bus. Mgmt. & Analysis, Bethpage, Services
Philip H. Kurz Jr., Paint, Calverton, Aircraft
Henry J. Lenz, E2/C2 Tail, Stuart, Aircraft
George Lind, Propulsion Stf., Bethpage, Aircraft
Patrick J. Lindstrom, Mech. Detail & Fin., Great River, Electronics
Robert V. Maple, Mat'l. Mgmt., Bethpage, Aircraft
William H. McCluskey, Engines, Calverton, Aircraft
Ralph T. Morelli, Integ., Verif. & Valid., Calverton, Aircraft
Ray Mur, V. P. & General Counsel, Bethpage, Services
Martin G. O'Connor, Sys. Dev. & Integ. Mgmt., Bethpage, Aircraft
Nicholas F. Pietromonaco, Tech. Writing, Melville, Aircraft
James W. Pope, CTR Sect. - Sub. Assembly, Bethpage, Aircraft
Charles V. Rau, Marketing, Bethpage, Aircraft
James J. Reilly, Bus. Ops., Bethpage, Data
Donald J. Rogers, Ops. Analysis, Bethpage, Aircraft
Bobby D. Ruth, Air Frame Sys., Calif. Grumman Tech. Service Div.
William G. Schultz, Marketing, Bethpage, Aircraft
Joseph J. Smith, ILS Prog. Mgmt., Bethpage, Aircraft
Alfred M. Squicciarino, Cent. Ship., Bethpage, Aircraft
Frederick H. Steffens, Maint., Bethpage, Services
Burton Swerdling, Thermal Sys., Bethpage, Aircraft
Eugene Ulmer, Maint., Bethpage, Services
Charles A. Unger, Electronics, Great River, Aircraft
Frederick A. Wengler, Mfg. Sch., Bethpage, Aircraft
Harold Wexler, Sys. Dev. & Integ., Princeton, Aircraft

Discounted IBM Courses

Grummanites and their families can take advantage of a special offer from Grumman Data Systems Institute on its IBM Personal Computer Software Applications course.

For just $295, you will learn: Intro the IBM PC; DOS 2.0; dBASE II; Lotus 1-2-3; WordStar; and BASIC. This 30-hour program takes place over a two-week period, from 6-10 p.m., Monday through Thursday. Because you get hands-on training, class size is limited. For details, call (516) 364-2055; Suffolk County residents call 467-6690.

Data Systems Institute Keeping In Sync With Technology

Over the past 16 years, the Grumman Data Systems Institute has had one homework assignment: Make sure its graduates have the skills that high technology industries need. The Institute is graded at each graduate's job interview.

It's not an easy assignment. The school is operating at a time when industries are under intense pressure to keep modernizing their operations and updating their work force skills. Grumman must keep its courses in synch with these changes. So far, this unit of the Data Systems Division has been earning "A's."

The Institute opened its doors to the general public in 1970. Fifty people signed up for a curriculum based on a computer programmer training course Grumman used to train its own programmers. In fact, Institute President George Capua was a graduate of the all-Grumman class of '69.

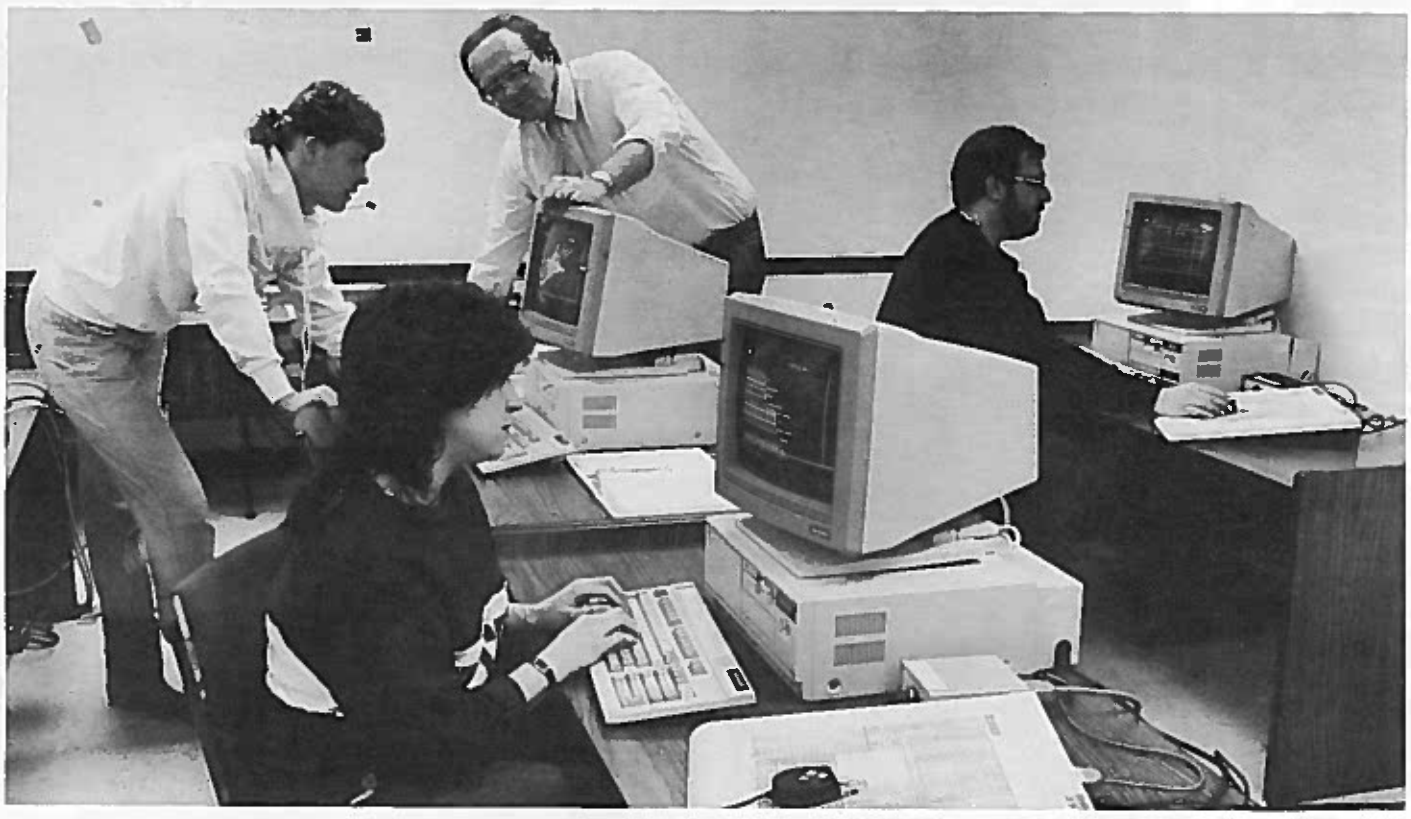
In the past decade, the school has grown from graduating 150 students a year to 1,500 a year at two Long Island campuses in Woodbury and Bohemia.

Its catalog of day and evening programs has grown, too. In addition to the computer programming course, Grumman offers Computer Operations, Electronics Technology, Systems Analysis, Accounting, Automated Office Technology, Computer Service Technology, Computer-Aided Drafting and Design, and Introduction to Microcomputer Software. Most of these courses carry college credit that grads can apply toward degrees. GDSI also offers a string of introductory and high-tech seminars.

While some 7,000 people have taken these programs over the years, their employers are the ultimate judges of the Institute.

"We get a lot of feedback from employers," says Harry Krane, manager of Training and Development. "We just had a meeting with Doubleday's top programmers and they gave us some topics they'd like to see strengthened in our programs.

"We'll bounce those ideas off several other employers through our career services unit," Krane explains. If these topics represent industry-wide needs, they go into the curriculum.



How Does It Work, Doc? *Technical schools used to teach drafting students how to use a T-square. Today, Grumman Data Systems Institute trains tomorrow's technologists in Computer-Aided Drafting and Design. Dr. Dennis Martin (standing) and the rest of the Institute's staff must know what skills industry will need in the future so that students such as Beth Body (background), Marie Rogers and Steve Paiken will be prepared to enter the job market. (Photos by Bob Settles)*

"As a business, we can only succeed if we produce a saleable product," says Krane. Doubleday believes Grumman does. Krane says the publisher fills many of its entry-level programmer slots with Grumman grads.

The Automobile Club of New York, based in Garden City, Long Island, is another company that depends on the Institute for computer professionals. Fred Komoroski, the assistant director of its Data Processing Department, says, "Since I came here, we've hired 15 or 20 programmers. At least 10 of them came from Grumman."

Komoroski joined the Automobile Club as a programmer in 1979, right after he graduated from the Institute. Compared to his college courses, Komoroski says that "Grumman courses are more in-depth. I felt well prepared to go to work as a programmer."

He feels the same about the Grumman grads he interviews for job openings. "They have a better grasp of programming than a lot of college people we talk to, and they're better prepared for the interview than college people." Of all the Grumman grads, he prefers those who've had a couple of years of work experience of any kind. "They are a lot more mature."

The Institute's grads are also ready to learn new skills – a fact that Fenn, Wright and Manson, Inc., is very aware of.

Over the past several years, this wholesaler of women's apparel has filled about 10 entry-level slots in its Manhattan headquarters and its Long Island accounting and data processing center. Every job went to a Grumman grad. "We don't look anywhere else," says Wendy Braund, the firm's data processing manager.

"Officially, we review our curricula once every three years," says Krane. That's a requirement of the New York State Board of Regents, which must approve all of the Institute's programs. "Unofficially, we review them constantly."

A retired New York City supervisor, teacher and former New York University instructor, Krane says writing curricula is part art and part science. "To keep the subject matter at the highest technological level, we tap the leading experts in the field," Krane explains.

"We seek what these experts believe are the skills and knowledge needed to succeed in their fields. Then we take that information and get inputs from our teachers, from employers, before we make any changes."

Since the Institute is part of Data Systems, experts are available right in the corporate backyard. "When we were putting together our newest course, Computer Service Technology, we naturally conferred with Systems Maintenance Services," says Krane, "the computer hardware services unit of Data Systems."

The potential for new courses is limitless, says Krane. "We look at the New York Times want ads to see what the companies are looking for. We study the trade publications and look at what the temporary agencies are doing."

The Institute is now studying a possible robotics course and, of all things, one in entrepreneurship. And why not, says Krane. "Many of our students are potential self employers, but know nothing about how to organize their own business." ■

Let's Talk. *In the third week of the Computer Programming course, instructor Charles Howard gives his students their first opportunity to work with the computer. Later, they will learn their first computer language: COBOL.*

Woodbury Campus Consolidated

Grumman Data Systems Institute has saved money and shoe leather. Three weeks ago, the Institute consolidated its two Woodbury facilities into one building in the Crossways Industrial Park complex. The Institute also has a campus across from MacArthur Airport in Bohemia, Long Island.

The consolidation comes at a good time. Low unemployment on Long Island means a flat growth curve for colleges, universities and schools such as the Grumman Data Systems Institute. "Our business is good when unemployment is high," says Vice President Charlene Russert, "because people need skills training to compete for those jobs that are available."

Current enrollment is still at an all time high but is continuing at a steady pace for the 16-year old Institute. The recent introduction of the Computer Service Technology course and the growth of its new Computer Aided Drafting and Design program will help boost future enrollments.

By moving all its Woodbury administrative offices and classrooms into one building, the Institute has cut facilities costs and made its resources more accessible to the staff and student body.

GrummanWorld
March 28, 1986

(Photo by Bob Settles)

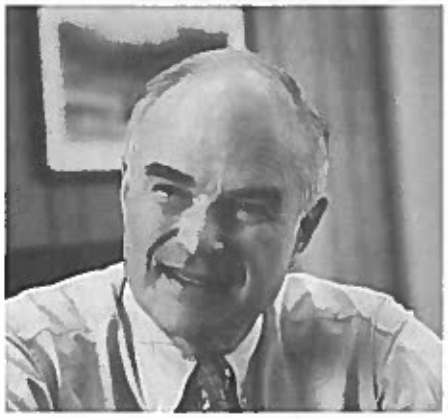
Blades Of Glass

Mario Martire is an expert when it comes to inspecting propeller blades. For 35 years he's been assembling propellers for Grumman planes – from the SA-16 Albatross amphibian to the E-2C Hawkeye.

Fiberglass shells bonded to steel, these blades are part of a Hamilton Standard-manufactured propeller for the Hawkeye. In the Engine Shop in Bldg. 4, Bethpage, Martire assembles the propellers – a process that takes him about three days.

He unwraps the ends of the propellers and installs 153 ball bearings in each. Then he inserts the ends into the hub in the background. He has to align the blades, because they turn. The pilot can turn the blades to reverse thrust for braking power when the Hawkeye lands.

A Letter From The Chairman



A few Grumman people have expressed their disappointment about the price of Grumman stock, which was recently as high as the mid-30s, but which was sold in the recent stock offering at $23.50 a share. I'm sure that a lot more were disappointed that the stock price couldn't have been higher.

I was disappointed, too.

Within the limits imposed by the SEC, I'd like to discuss the issue as best I can, noting some of the pressures that have been on Grumman stock over the past several months.

The stock price rose into the mid-30's when investment advisors forecast increased earnings for Grumman in 1986, and when the arbitrageurs were saying that Grumman was a likely takeover target.

Following that high in the New Year's period, there were many other influences that tended to lower the price of the stock. One of these was the uncertainty that the Gramm-Rudman bill brought to all defense issues. There was also the realization that our heavy research and development expenditures would continue into 1986, and that therefore our earnings wouldn't go up.

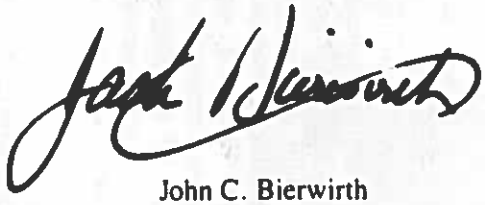
A less discernible factor came last summer when our employee investment plan (EIP) permitted Grumman people over age 60 to transfer their Grumman stock, in annual increments, to other EIP investment alternatives. Many employees took advantage of this. It is a good option and good personnel policy, but it did have a negative impact on the stock. It made the employee investment plan a less substantial investor than it had been.

Then, the announcement that there would be a new issue of common stock had the normal tendency of decreasing the market price. This is because the investing public recognizes that there will be a large supply available in the market, at least temporarily. All these negative factors combined to drive the price of the stock from the 30s to the mid-20s.

However, since the sale, our stock has steadily risen in price. One possible explanation for this is that a stock sale makes a company more visible for a while; it gives us a chance to tell our story. I believe that this has helped to change the perception of our company. People who know about Grumman identify it with aircraft, and some may know about trucks and canoes. But now, more and more people have become aware that we have a major position in electronics – and electronics, of course, is one of the keys to our future growth.

In the opinion of our various financial advisors, this sale of stock was critical to the maintenance of Grumman's new higher credit ratings. With these better credit ratings in hand, our 10-year notes were sold at just eight tenths of a percent over the U.S. Government note rate; our 25-year notes were 1.2 percent above the government rate. These are very encouraging rates – rates I did not expect to see Grumman achieve for some time. What it means is that the long-term cost of this money to shareholders is considerably less, even though it meant going through a period when the stock was getting knocked around a bit.

Now Grumman is financed for the growth we anticipate over the next few years. Although the percentage of stock owned by retirees, employees and friends of the company has been reduced from 54 percent to 49 percent, it still has the effect of assuring all of us that Grumman can't be taken over without the consent of the Grumman people.



John C. Bierwirth
Chairman

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